We claim:

1. In a radio frequency circuit, an interconnection structure to connect a first conductive trace on a first conductive layer of a circuit board to a second conductive trace on a second conductive layer of the circuit board, the interconnection structure comprising:

a centre signal conductor via connected at a first end to the first conductive trace and connected at a second end to the second conductive trace and wherein the signal conductor via propagates electrical signals between the first conductive trace on the first conductive layer and the second conductive trace on the second conductive layer of the circuit board; and

a plurality of ground vias surrounding the centre signal conductor via, the plurality of ground vias having a position relative to the centre signal conductor via based upon a desired overall impedance of the interconnection structure.

2. An interconnection structure according to claim 1 wherein each of said plurality of ground vias have substantially the same diameter.

3. An interconnection structure according to claim 1 wherein each of said plurality of ground vias are substantially the same distance from said centre signal conductor via.

4. An interconnection structure according to claim 2 wherein said plurality of ground vias have a diameter based upon the desired overall impedance of the interconnection structure.

5. An interconnection structure according to claim 1 wherein said centre signal conductor via has a diameter based upon the desired overall impedance of the interconnection structure.

6. An interconnection structure according to claim 1 wherein said centre signal conductor via is connected to the first conductive trace by a first via pad and connected to the second conductive trace by a second via pad.

7. An interconnection structure according to claim 1 wherein said centre signal conductor via and each of said plurality of ground vias have substantially the same diameter.

8. An interconnection structure according to claim 7 wherein said centre signal conductor via and each of said plurality of ground vias have a diameter based upon the desired overall impedance of the interconnection structure.

9. An interconnection structure according to claim 1 wherein said centre signal conductor via and each of said plurality of ground vias have a different diameter, said diameters based upon the desired overall impedance of the interconnections structure.

10. In an antenna selection module for connecting at least one of a plurality of radio ports to at least one of a plurality of antenna ports in a radio frequency communication system, an interconnection structure for connecting a first conductive trace on a first conductive layer of the antenna selection module to a second conductive trace on a second conductive layer of the antenna selection module, said interconnection structure comprising:

a signal conductor via connected at a first end to said first conductive trace on said first conductive layer of the antenna selection module and at a second end to said second conductive trace on said second conductive layer of the antenna selection module and wherein the signal conductor via propagates electrical signals between said first conductive trace on said first conductive layer of said antenna selection module and said second conductive trace on said second conductive layer of said antenna selection module; and

a plurality of ground vias surrounding the signal conductor via, said plurality of ground vias having a position relative to said signal conductor via based upon a desired overall impedance of the interconnection structure.

11. An interconnection structure according to claim 10 wherein each of said plurality of ground vias have substantially the same diameter.

12. An interconnection structure according to claim 10 wherein each of said plurality of ground vias are substantially the same distance from said signal conductor via.

13. An interconnection structure according to claim 11 wherein said plurality of ground vias have a diameter based upon a desired overall impedance of the interconnection structure.

14. An interconnection structure according to claim 10 wherein said signal conductor via has a diameter based upon a desired overall impedance of the interconnection structure.

15. An interconnection structure according to claim 10 wherein said signal conductor via and each of said plurality of ground vias have substantially the same diameter.

16. An interconnection structure according to claim 15 wherein each of said plurality of ground vias and said signal conductor via have a diameter based upon a desired overall impedance of the interconnection structure.

17. An interconnection structure according to claim 10 wherein said signal conductor via is connected to the first conductive trace by a first via pad and connected to the second conductive trace by a second via pad.

18. An interconnection structure according to claim 10 wherein said signal conductor via and each of said plurality of ground vias have a different diameter, said diameters based upon a desired overall impedance of the interconnection structure.

19. In a radio frequency communication system, an antenna selection module for connecting at least one of a plurality of radio ports to at least one of a plurality of antenna ports, said antenna selection module comprising:

a first conductive layer having said at least one of a plurality of radio ports, said first conductive layer having at least one first conductive trace thereon and connected to said at least one of a plurality of radio ports;

a second conductive layer having said at least one of a plurality of antenna ports, said second conductive layer having at least one second conductive trace thereon and connected to said at least one of a plurality of antenna ports;

an interconnection structure comprising:

a signal conductor via connected at a first end to said at least one first conductive trace on said first conductive layer and at a second end to said at least one second conductive trace on said second conductive layer, said signal conductor via propagating electrical signals between said at least one first conductive trace on said first conductive layer to said at least one second conductive trace on said second conductive layer;

a plurality of ground vias surrounding said signal conductor via, said plurality of ground vias having a position relative to said signal conductor via based upon a desired overall impedance of the interconnection structure.

20. An antenna selection module according to claim 19 wherein said antenna selection module comprises at least one grounded metal layer, said at least one grounded metal layer having a ground pullback section cut away in a region surrounding said signal conductor via, said at least one grounded metal layer providing a ground return path for said first and second conductive layers.

21. An antenna selection module according to claim 20 wherein said at least one grounded metal layer comprises first and second ground extension sections protruding into said cut away ground pullback section, said first ground extension section corresponding to a section of said at least one first conductive trace on said first conductive layer not having said grounded metal layer underneath and said second ground extension section corresponding to a section of said at least one second conductive trace on said second conductive layer not having said grounded metal layer above.

22. A multilayer printed circuit board for use in a radio frequency communication system, said multilayer printed circuit board comprising:

a first conductive layer having a first conductive trace formed thereon terminating at a first via pad;

a second conductive layer having a second conductive trace formed thereon terminating at a second via pad;

an interconnection structure comprising:

a signal conductor via connected at a first end to said first conductive trace by said first via pad and connected at a second end to said second conductive trace by said second via pad, wherein said signal conductor via propagates electrical signals between said first conductive trace on said first conductive layer and said second conductive trace on said second conductive layer; and

a plurality of ground vias surrounding said signal conductor via, said plurality of ground vias having a position relative to said signal conductor via based upon a desired overall impedance of the interconnection structure.

23. A multilayer printed circuit board according to claim 22 wherein said multilayer circuit board further comprises at least one grounded metal layer, said at least one grounded metal layer having a ground pullback section cut away in a region surrounding said signal conductor via, said at least one grounded metal layer providing a ground return path for said first and second conductive layers.

24. A multilayer printed circuit board according to claim 23 wherein said at least one grounded metal layer comprises first and second ground extension sections protruding into said cut away ground pullback section, said first ground extension section corresponding to a section of said first conductive trace on said first conductive layer not having said grounded metal layer underneath and said second ground extension section corresponding to a section of said second conductive trace on said second conductive layer not having said grounded metal layer above.

25. A multilayer printed circuit board according to claim 23 wherein said at least one grounded metal layer comprises first and second grounded metal layers, said first grounded metal layer comprising first and second ground extension sections protruding into said corresponding cut away ground pullback section, said first ground extension section corresponding to a section of said first conductive trace on said first conductive layer not having said grounded metal layer underneath and said second ground extension section corresponding to a section of said second conductive trace on said second conductive layer not having said grounded metal layer above, said second grounded metal layer comprising a third ground extension section protruding into said corresponding cut away ground pullback section, said third ground extension section corresponding to a section of said second conductive trace on said second conductive layer not having said grounded metal layer above.

26. A multilayer printed circuit board according to claim 23 wherein said cut away ground pullback section of said at least one grounded metal layer has a radius greater than the radius of said first via pad.

27. A multilayer printed circuit board according to claim 22 wherein said signal conductor via and plurality of ground vias extend beyond said second conductive layer.

28. A multilayer printed circuit board according to claim 27 wherein said multilayer printed circuit board further comprises a matching stub located on said second conductive

layer, said matching stub comprising a prescribed length of conductive transmission line connected at a first end to said second via pad and connected at a second end to at least one of said plurality of ground vias.

29. A multilayer printed circuit board according to claim 28 wherein said prescribed length of conductive transmission line introduces an inductive component to compensate for a section of said signal conductor via beyond said second conductive layer.

30. A multilayer printed circuit board according to claim 22 wherein said plurality of ground vias have a diameter based upon the desired overall impedance of the interconnection structure.

31. A multilayer printed circuit board according to claim 23 wherein said cut away ground pullback section is concentric with said center signal conductor via and has a radius greater than the radius of said first via pad.